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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/829,684	04/10/2001	Steffen Hofacker	Mo-6019/LeA33,933	9248

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BAYER CORPORATION  
PATENT DEPARTMENT  
100 BAYER ROAD  
PITTSBURGH, PA 15205

EXAMINER

AHMED, SHEEBA

ART UNIT

PAPER NUMBER

1773

4

DATE MAILED: 04/26/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Applicati n No.

09/829,684

Applicant(s)

HOFACKER ET AL.

Examiner

Sheeba Ahmed

Art Unit

1773

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All   b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

1. Claim 8 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 8 recites that the transparent plastic is "selected from the group *comprising* polyamide, .....polycarbonate and blends thereof....". Alternative expressions are permitted if they present no uncertainty with respect to the scope of the claims. One acceptable form of alternative expressions, which is commonly referred to as a Markush group, recites members as being "selected from the group *consisting of*....". Ex parte Markush , 1925 C.D. 126 (Comm'r pat. 1925). The Examiner recommends amending the above mentioned claim language to recite a proper Markush group.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

Art Unit: 1773

2. Claims 1, 2, 4, 7-9, 11, and 14 are rejected under 35 U.S.C. 102(e) as being anticipated by Suzuki et al. (US 6,319,594 B1).

Suzuki et al. recite a film comprising a transparent substrate film, a transparent conductive layer containing zinc oxide (***corresponding to the zinc-oxide layer of the claimed invention***) and a low refractive hardcoat layer (***corresponding to the abrasion-resistant outer layer of the claimed invention***) (Column 2, lines 6-12). The transparent substrate film may be polyamide, polypropylene, polymethyl methacrylate, or polycarbonate (***corresponding to the transparent plastic layer of the claimed invention and meeting the limitations of claim 8***) (Column 2, lines 56-67). The transparent conductive layer comprises conductive fine particles such as zinc oxide embedded in a curing resin such as an organosilicon compound (***hence the Examiner takes the position that the zinc oxide particles are inherently surface modified by the organosilicon compound which surrounds the zinc oxide particles***). Examples of such organosilicon compounds include glycidoxypropyltrimethoxysilane (***thus meeting the limitations of claims 4, 7, and 14***)(Column 3, lines 4-65 and Column 4, lines 24-35). Example 1 shows that the low refractive hard coat layer may be formed by a SiO<sub>2</sub> sol (***thus meeting the limitations of claims 2 and 9***). All limitations of claims 1, 2, 4, 7-9, 11, and 14 are either disclosed or inherent in the above reference.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

Art Unit: 1773

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1, 5, 8, and 12 are rejected under 35 U.S.C. 102(b) as being anticipated by Kase et al. (US 5,925,453).

Kase et al. disclose a window film (***corresponding to the plastic article of the claimed invention***) comprising a transparent base film (***corresponding to the transparent plastic of claim 8***), an infrared absorbing layer containing ZnO (***corresponding to the ZnO containing layer of the claimed invention***) (Column 1, lines 44-48) and wherein the window film may be further provided with a protective layer (***corresponding to the abrasion resistant layer of the claimed invention***) for protecting the surface of the infrared absorbing layer (Column 3, lines 46-52). The infrared absorbing layer includes an infrared absorbing agent such as ZnO which is a particulate having an average particle diameter of 0.005 to 1 micrometer (***equivalent to 5 to 1000 nm and hence meeting the limitations of claims 12***) and a binder resin (Column 2, lines 34-60 and Column 3, lines 27-30). The transparent base film may be PE, PP, ABS resins, vinyl chloride resins, styrene resins, polycarbonate resins and polyamide resins (***thus meeting the limitations of claim 8***) (Column 3, lines 10-26). All limitations of claims 1, 5, 8, and 12 are disclosed in the above reference.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and

Art Unit: 1773

the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 6 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kase et al. (US 5,925,453) in view of Oka et al. (US 5,747,152).

Kase et al., as discussed above in Paragraph No. 3, fail to disclose that the ZnO particles in the infrared absorbing layer are surface treated with glycidoxypropyltrimethoxysilane. However, Oka et al. disclose functional ultra fine particles such as ZnO that may be used for the purpose of imparting a screening property to a layer. The functional ultra fine particles may be subjected to a treatment with a silane coupling agent to render the surface hydrophobic which improves the affinity of the particles to the binder resin (Column 11-1, lines 55-67 and 1-35). Accordingly, the Examiner takes the position that it would have been obvious to one having ordinary skill in the art to surface treat the ZnO particles disclosed by Kase et al. with a silane compound given that Oka et al. specifically teach that doing so renders the surface of the particle hydrophobic which improves the affinity of the particles to the binder resin. With regards to the specific silane (i.e., glycidoxypropyltrimethoxysilane), the Examiner takes the position that it would be obvious to use any silane given the expectation of equivalent results (*as evidenced by Suzuki et al. (US. 6,319,594; Column 4, lines 22-39) which shows that amino and epoxy silanes such as glycidoxypropyltrimethoxysilane are equivalent structures*).

5. Claims 3 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kase et al. (US 5,925,453) in view of Basil et al. (US 6,106,605).

Art Unit: 1773

Kase et al., as discussed above in Paragraph No. 3, fail to disclose that the outer protective layer contains sol-gel materials. However, Basil et al. disclose protective coatings for transparent plastic materials (Column 1, lines 12-16) comprising of sols of alkoxides, which provide UV protection without comprising abrasion resistance of any underlying inorganic oxide layers (Column 1, lines 54-59). Accordingly, it would have been obvious to one having ordinary skill in the art to use a protective, abrasion resistant coating that contains sol-gel materials given that Basil specifically teaches that such protective coatings provide UV protection without comprising abrasion resistance of any underlying inorganic oxide layers.

### ***Conclusion***

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sheeba Ahmed whose telephone number is (703)305-0594. The examiner can normally be reached on Mon-Fri 8am-4pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paul Thibodeau can be reached on (703)308-2367. The fax phone numbers for the organization where this application or proceeding is assigned are (703)305-5408 for regular communications and (703)305-3599 for After Final communications.



Sheeba Ahmed  
April 23, 2002



Paul Thibodeau  
Supervisory Patent Examiner  
Technology Center 1700